



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/475,991	12/30/1999	KENICHIRO SAKAI	991522	7159
23850	7590	10/08/2003	EXAMINER	
ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP 1725 K STREET, NW SUITE 1000 WASHINGTON, DC 20006			CHANG, JON CARLTON	
			ART UNIT	PAPER NUMBER
			2623	
DATE MAILED: 10/08/2003				

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/475,991	SAKAI ET AL.	
	Examiner Jon Chang	Art Unit 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 21 July 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 2-11 and 13-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 2-11, 13, 14, 17, 36 and 37 is/are allowed.
- 6) Claim(s) 15, 16, 28-35 and 38-40 is/are rejected.
- 7) Claim(s) 18-27 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on 21 July 2003 is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____.
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.	6) <input type="checkbox"/> Other: _____.

Response to Applicants' Amendment and Arguments

1. The amendment filed July 21, 2003, has been entered and made of record.

In response to the proposed change to the drawings, the objection to the drawings is withdrawn.

In response to the amendment, the rejection under 35 U.S.C. § 112, second paragraph, is withdrawn.

Applicants' arguments have been fully considered, but they are not deemed to be persuasive for at least the following reasons.

On pages 21-23, Applicants essentially argue that neither Nakabayashi (Applicants refer to Matsuda and Miyamoto in the next to last paragraph of page 21, but the comments appear to be directed toward Nakabayashi), Matsuda, nor Miyamoto, teach the same partitioning as the present invention. Applicants state that the present invention partitions a plurality of documents, **including graphics read by a scanner**, respectively into a plurality of vertical and horizontal regions, and extracted line images containing only character images from the other respective regions. Then, the preferred embodiment can detect overlapping position between documents, **including graphics** more accurately by **specifying regions** containing a lot of line images **as low graphics-ratio regions** and making comparison between character regions of the line images in the respective regions. The Examiner points out that these features are not claimed (see claim 15, for example). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re*

Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Claim 15, for example, only requires, "partitioning first and second document image which are partitioned and read, respectively into a plurality of vertical and horizontal regions. This is taught by Nakabayashi (note horizontal regions in Fig.4, and vertical regions in Fig.5), Matsuda (note in Fig.3(II) the horizontal and vertical regions which intersect each other in A1, A2, A3 and A4), and Miyamoto (in Fig.7, note the vertical and horizontal circumscribing rectangles).

On pages 22 and 23-24, Applicants further assert that the claims patentably distinguish over the prior art because they recite, "...overlapping detecting unit detecting an overlapping position between the first and second document images, based on positions of character regions whose matching degrees are high by making a comparison between a character regions of a line image in a region, containing a lot of line images, of a plurality of regions in the first document extracted by said line image extracting unit and a character region of a line image in a corresponding region of the second document..." The Examiner disagrees. These are taught by the references, as will be shown in the rejections below.

Claim Objections

2. Claim 13, 15, 16, 29, 32-35, 38-40 are objected to because of the following informalities:

a) in claim 13, at line 3, "position an sizes" should read --positions and sizes-- (it appears that the text was inadvertently modified from the original).

- b) in claim 15, at line 10, "regions" should read, --region--.
- c) in claim 33, at line 10, "a lot to line images" should read, --a lot of line images--
- d) in claim 39, at line 12, "a lot to line images" should read, --a lot of line images--
- e) claim 5 refers to "first document" and "second document" in lines 11 and 13.

This should read, --first document image-- and --second document image--. Claims 29, 32-35 and 38-40 suffer from the same problem.

- f) in claim 16, lines 12-13 read, "...and a character recognition result of a and corresponding region in the second document..." This should be corrected.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. Claims 15, 18-28, 29-32, 34, 35, 38, 39 and 40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 15, 18-28, 29-32, 34, 35, 38, 39 and 40 all recite, "containing a lot of line images." The term "a lot" in the claims is a relative term which renders the claim indefinite. The term "a lot" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 15, 16, 28, 32-34 and 38-39 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,675,672 to Nakabayashi.

As to claim 15, Nakabayashi discloses a document image processing device, comprising:

region partitioning unit partitioning first and second document images which are partitioned and read, into a plurality of vertical and horizontal regions (Fig.4; Fig.1, elements 28 and 30 obtain partitioned images of the document 32; note horizontal regions in Fig.4, and vertical regions in Fig.5);

line image extracting unit extracting line images containing only character images from the plurality of regions partitioned by said region partitioning unit (Fig.4; note the lines of character which are extracted in elements 82 and 84);

overlapping detecting unit detecting an overlapping position between the first and second document images (Note dotted boxes in Figs.4 and 5) based on positions of character regions whose matching degrees are high by making a comparison between a character region of a line image in a region containing a lot of line images (note that

there are a lot of line images in Figs.4 and 5), of a plurality of regions in the first document image extracted by said line extracting unit and a character region of a line image in a corresponding region of the second document (comparison is made between the corresponding regions based on the coded characters, column 5, lines 36-37, column 2, lines 42-43); and

image merging unit merging first and second document images at the overlapping position detected by said overlapping detecting unit (column 5, lines 46-47; column 6, lines 3-5).

With regard to claim 28, Nakabayashi discloses the document image processing device according to claim 15, wherein said overlapping detecting unit makes a comparison between the line images in the respective regions in a predetermined order (in Fig.4, for each pair of line images, there is one comparison, which means the order is predetermined).

With regard to claim 16, the remarks provided above for claim 15 are applicable for their common features. Claim 16 further recites a character recognizing unit recognizing character images in the line images within the respective regions, and that the overlapping unit additionally detects the overlapping position based on a character recognition result of a corresponding region in the second document. This is taught by Nakabayashi (Fig.1, element 12; column 4, lines 23-31; column 5, lines 34-39).

With regard to claims 32-34, remarks similar to those provided above for claims 15 and 16 are applicable.

With regard to claims 38-39, remarks similar to those provided above for claims 15, 16 and 1 are applicable. The computer-readable storage medium of claims 38 and 39 is inherent given that Nakabayashi's invention is a computer based system (column 1, line 17).

6. Claims 15, 16, 32-34 and 38-39 are rejected under 35 U.S.C. 102(a) as being anticipated by either one of the following two references: Japanese Published Patent Application 11-196255 to Matsuda, or Japanese Published Patent Application 11-66234 to Miyamoto et al. (hereinafter "Miyamoto").

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

As to claim 15, as best understood, Matsuda and Miyamoto disclose a document image processing device, comprising:

region partitioning unit partitioning first and second document images which are partitioned and read, respectively into a plurality of vertical and horizontal regions (Matsuda, paragraph [0007], Fig.3(II); Miyamoto, paragraph [0001], Fig.7);

line image extracting unit extracting line images containing only character images from the plurality of regions partitioned by said region partitioning unit (Matsuda, Fig.3, note the lines of characters; Miyamoto, Fig.7, note the lines of characters);

overlapping detecting unit detecting an overlapping position between the first and second document images based on positions of character regions whose matching

degrees are high by making a comparison between a character region of a line image in a region containing a lot of line images, of a plurality of regions in the first document image extracted by said line extracting unit and a character region of a line image in a corresponding region of the second document (Matsuda, paragraph [0007], Fig.3; Miyamoto, paragraph [0007] and [0010], Fig.7); and

image merging unit merging the first and second document images at the overlapping position detected by said overlapping detecting unit (Matsuda, paragraph [0007]; Miyamoto, paragraph [0007]).

With regard to claim 16, the remarks provided above for claim 15 are applicable for their common features. Claim 16 further recites a character recognizing unit recognizing character images in the line images within the respective regions, and that the overlapping unit additionally detects the overlapping position based on a character recognition result of a corresponding region in the second document. This is taught by both Matsuda and Miyamoto (Matsuda, paragraph [0007]; Miyamoto, paragraphs [0007] and [0010]).

With regard to claims 32-34, remarks similar to those provided above for claims 15 and 16 are applicable.

With regard to claims 38-39, remarks similar to those provided above for claims 15, 16 and 1 are applicable. The computer-readable storage medium of claims 38 and 39 is inherent given Matsuda's paragraph [0001] and Miyamoto's paragraph [0035].

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 29-31, 35 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakabayashi.

As to claim 29, the remarks provided above for claim 15 are applicable. Claim 29 further recites a setting unit allowing a setting of whether or not to automatically merge the plurality of document images on a display screen. Essentially, this amounts to a control for displaying or not displaying the merged images. This is not seen as a patentable difference from Nakabayashi. To display or not display a result of processing is considered a decision based on designer or user preference. Further, the Examiner takes Official Notice that units for permitting or not permitting a display of a processing result is well known. It would have been obvious to one of ordinary skill in the art to employ such a unit to allow a user to view merged images, if he so desired (to check the result prior to printing for example), or not display the merged images (to save time for example).

With regard to claim 30, the particular manner in which the setting unit is implemented (i.e., on-screen button, switch, etc.) is considered to be determined by designer preference.

Claim 31 requires that said setting unit is one with which a user can set the number of merging sheets of document images. This is not considered a patentable distinction. In any scanning system, the user determines the desired number of scanned document images. This in turn, would determine the number of sheets to merge. To have a unit to allow a user to set this number is considered obvious.

With regard to claim 35, remarks provided above for claims 16 and 29 are applicable.

With regard to claim 40, remarks provided above for claims 16 and 29 are applicable. The computer-readable storage medium is inherent given that Nakabayashi's invention is a computer based system (column 1, line 17).

Allowable Subject Matter

9. Claims 2-11, 13-14, 17, 36 and 37 are allowed.
10. Claims 18-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon Chang whose telephone number is (703)305-8439. The examiner can normally be reached on M-F 8:00 a.m.-6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703)308-6604. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.


Jon Chang
Primary Examiner
Art Unit 2623

Jon Chang
October 2, 2003